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ABSTRACT

In this unit of the Seeing and Thinking Mathematically series, students use geometry to analyze buildings from around the world, design and build their own house models, create plans for their designs, and build from each other's plans. Students start out the unit building with cubes and later move to other geometric shapes. As they learn to represent these three-dimensional structures with two-dimensional drawings and with words, students gain mathematical knowledge and proficiency. In the final activity students begin with flat geometric shapes and build a model house for one of two climates: a hot, rainy climate or a cold, snowy climate. The sections of the book are: "Visualizing and Representing Cube Structures," "Describing Properties and Functions of Shapes," and "Visualizing and Representing Polygons and Polyhedra." Appendices include: designing homes for different climates, a scoring rubric, sample final projects, shape templates, and reproducible blackline masters in both Spanish and English. Mathematical themes encountered are: multiple representations of shapes and structures, visualization, properties and components of shapes, and communication. A unit overview discusses shorter routes through the unit, necessary materials, computer possibilities, and student assessment. (Contains 14 references.) (MKR)

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